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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,881	08/31/2001	Ping Li	021238-478	9479

7590 11/17/2004

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EXAMINER

WALLS, DIONNE A

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/942,881	LI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Dionne A. Walls	1731	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 43-76 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 43-76 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 12, 2004 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 43-52, 55, 67, 69 and 75 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Applicant has presented amendments and/or new claim recitation regarding the cut filler additive being "free of ash" or "free of potassium and calcium". However, there is no indication in the instant specification that Applicant envisioned this as a part of its claimed invention, prior to the introduction of the Stuetz reference, which has been used to reject the pending claims, and which discloses the use of ash and/or

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calcium/potassium in conjunction with a metal oxide additive in the disclosed filler.

Therefore, the Examiner believes this recitation to be "new matter" since there appears to be no evidence, on the record, that Applicant had possession of the claimed invention, as now amended, at the time the Application was filed. The Examiner requests that the amended language be stricken from the claims, or that the claims be cancelled in their entirety.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 46-47, and 56-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant has recited particle size ranges, such as "about 5/100 to about 50/500 nm or less than about 5/100 nm", but it is not clear what is meant by this recitation, i.e., does Applicant intend to claim all particles sizes less than 500/50 nm; would a particle size of, say, 3 nm be readable on the claims? Clarification is requested.

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 43-76 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 42-76 of copending Application No. 10/286,968. Although the conflicting claims are not identical, they are not patentably distinct from each other because the catalyst recited in the claims of 10/286,968 - which is capable of acting as a catalyst for the reduction of harmful constituents in tobacco smoke - is also capable of acting as an oxidant for the conversion of carbon monoxide to carbon dioxide as recited in the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 43-44 and 46-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stuetz (US. Pat. No. 4,397,321).

Stuetz discloses nearly all that is recited in the claims, since it discloses a cut filler composition, for use in a cigarette, comprising tobacco having uniformly dispersed therein a catalyst composition which can consist of a combination of manganese oxide and/or iron oxide, and potassium and/or calcium oxides (corresponding to the claimed

"at least one additive capable of acting as an oxidant....and/or as a catalyst") (Note: Stuetz does not require "ash" as a part of the additive, but envisions an embodiment with a component selected from potassium and calcium compounds, or ash – in combination with the transition metal compound; see entire reference). While Stuetz may not specifically state that the catalyst particles are in the form of nanoparticles, it does state that the efficiency of toxic material reduction in smoke delivered by the disclosed catalyst *increases* as the particle size of the catalyst decreases. Also, Stuetz states that a lessened amount of the catalyst is required when a "colloidal" metal oxide catalyst is used. (Note: Brady et al ("Fundamentals of Chemistry") states that "colloidal" mixtures are those in which the particles of at least one of the substances have a dimension in the range of 1 – 1000nm (corresponding to the claimed "nanoparticles"))(see page 409)). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize the catalyst of Stuetz as a colloidal dispersion, with the above particle size range, in order to require a lessened amount of catalyst and enable an increased efficiency of reduction of toxic components in cigarette smoke.

It follows that the claimed metal oxides, since having the claimed particle size, would also have the claimed surface area parameters.

It follows that the additive would catalyze the conversion of carbon monoxide at the claimed temperature range since these are the temperatures achieved during the smoking of a cigarette.

Also, it would have been obvious to one having ordinary skill in the art at the time of the invention to optimize the amount and size of the catalyst used in the tobacco filler in order to arrive at the claimed carbon monoxide conversion, after routine experimentation, in order to provide for optimal toxic component reduction.

***Allowable Subject Matter***

10. Subject to filing a Terminal Disclaimer and clarifying 112-2 issues, claims 53-54, 56-66, 68, and 70-74 and 76 would be allowed.

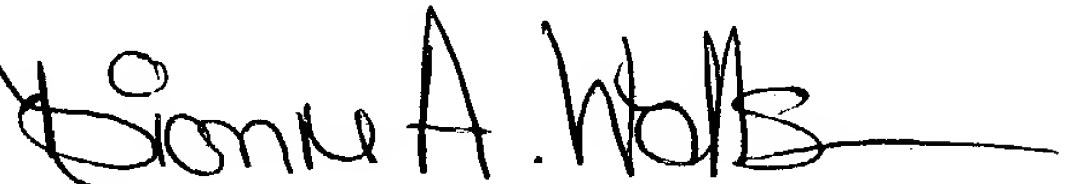
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne A. Walls whose telephone number is (571) 272-1195. The examiner can normally be reached on Mon-Fri, 7AM - 4:30PM (Every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Dionne A. Walls", with a long horizontal flourish extending to the right.

Dionne A. Walls  
Primary Examiner  
Art Unit 1731

November 15, 2004